MANAGEMENT AREA 4A (177,406 acres) - BIG-GAME WINTER RANGE MAINTENANCE

1. Description

Management Area 4A provides winter habitat for big game, including Rocky Mountain elk and mule deer. These areas are primarily below 5,200 foot elevation and include nonforested grasslands, bitterbrush and mountain mahogany brushfields, and forested lands Nonforested areas are generally on southern and western aspects. Landtypes and slope vary.

2. Goals

Maintain or enhance the quality of the winter range habitat for deer and elk through timber harvesting, prescribed burning, and other management practices. Manage for elk habitat by balancing cover quality, cover spacing, forage, and open road densities.

3. Standards

RESOURCE ELEMENT **STANDARDS**

The Forest-wide management direction included in Chapter IV, Section E, of this Plan applies to this management area except where superseded by the following standards:

Recreation

1. Manage for recreation ranging from semiprimitive to roaded modified, depending on ROS objective of adjacent land

2. Access by motorized recreational vehicles will be prohibited December 1 to April 1, except for designated routes though winter range which are compatible with the management area emphasis.

Visuals

3. Meet visual quality objectives ranging from retention to modification depending on the visual quality objective of adjacent lands.

Fish and Wildlife

Big Game

4. Manage elk and mule deer winter range habitat to provide for 25% cover and an elk habitat effectiveness index (HEI) of 0 5

   The HEI model provides a means of balancing cover quality, cover spacing, forage, and open road densities. If these minimums are not attainable due to natural conditions (e.g., extensive nonforest areas), insects and disease conditions, or past management activities, then the highest possible cover percentage and index value will be maintained or created. Site-specific project analysis will address both short-term and long-term effects, particularly in the case of cover where short-term options to treat stands for insects and disease will improve forest health in the long-term. The Forest Supervisor will review and approve all recommendations to drop below cover and HEI standards as well as a strategy to reach standards within a reasonable length of time (see Forest-wide Standard No. 3)

   Cover and habitat effectiveness determinations for site-specific projects will be calculated on a subwatershed basis. Calculations will include both forested and nonforested lands regardless of their suitability for timber production.

Habitat Effectiveness Index (HEI) Model

The model to be used to calculate elk habitat effectiveness on winter range is:

$$HEI = (HE_c \times HE_s \times HE_r \times HE_f)^{1/4}$$

where,

HE_c = habitat effectiveness derived from the quality of cover

HE_s = habitat effectiveness derived from the size and spacing of cover

HE_r = habitat effectiveness derived from the density of roads open to vehicular traffic

HE_f = habitat effectiveness derived from the quality and quantity of forage

Shown below are the minimum elk cover and habitat effectiveness standards for winter range and minimum values for the model variables.

		Minimum1/ Values For Variables				Minimum Amount2/ of Area in Cover		
Winter Range	HEI	HE_c	HE_s	HE_r3/	HE_f	Satis.	Marginal	Total
Fox/Cottonwd	.5	.4	.3	.5	.4	10%	10%	25%
MF John Day	.5	.4	.3	.5	.4	10%	10%	25%
SF John Day	.5	.4	.3	.5	.4	8%	10%	20%
NF Malheur	.5	.4	.3	.5	.4	8%	10%	20%
Upper JD	.5	.4	.3	.5	.4	10%	10%	25%
Malheur River	.5	.4	.3	.5	.4	5%	10%	20%
Silvies	.5	.4	.3	.5	.4	8%	10%	25%

1/The interactions between cover stand size and spacing, road density, forage and cover quality are compensatory to a limited extent; that is, variables with low values tend to be compensated by those with high values Because elk tend to respond primarily to habitat variables of relatively low value, minimum values have been established for each variable in the habitat effectiveness model. While it is desirable to meet or exceed the minimum value for each variable it may not be possible to do this in every case due to site condition or potential. However, if all the variables are met at only the minimum values, the minimum standard for HEI will not be met. Therefore, to meet the HEI standard, if one or more variables are at the minimum or below, other variables must be met at higher levels in order to achieve the HEI standard.

2/For cover definitions, see Glossary Where satisfactory cover is below the minimum standard, retain sufficient hiding cover to mitigate this shortage.

3/A closed road is one where use is not physically evident, no greater than one trip/week.

5. Achieve at least 50% HEI and 25% cover on winter range that overlaps with Management Area 14 (Visual Corridor) unless natural vegetative conditions prevent it. Resolve all conflicts in objectives through project level environmental analysis.

6. Provide for satisfactory and marginal cover in blocks of at least 10 acres and a minimum of 600 feet wide to ensure effective use of the cover by big game.

7. Restrict activities that disturb wintering big game in a significant and prolonged manner from December 1 to April 1.

8. Review winter range boundaries in cooperation with the Oregon Department of Fish and Wildlife and adjust as necessary.

9. Coordinate annually with the Oregon Department of Fish and Wildlife in developing population goals which are in balance with habitat capability.

10. Conduct inventories and studies as needed to identify conflicts between big game and other resources and work for resolution in an interdisciplinary fashion.

11. Cooperate with the Oregon Department of Fish and Wildlife in studies of big game movements using tagging, radio collars, etc , and also in seasonal counts as appropriate to the achievement of objectives

12. Monitor winter range condition and utilization using transects, exclosures, photo points, vegetative plots, etc., as appropriate for the purpose of identifying improvement, mitigation, or research needs Give special emphasis to the determination of proper winter range restoration techniques (e.g., decadent mountain-mahogany).

13. Develop, in conjunction with silviculture, prescriptions, stocking levels and a stand treatment schedule for precommercial and commercial thinning that achieve long-term big game cover requirements with a minimum of adverse impacts on timber production.

Range

14. Prioritize forage utilization to provide for big game species at levels derived in consultation with the Oregon Department of Fish and Wildlife for each area.

15. Include the forage needs of big game in late fall when preparing or updating allotment management plans and when considering seasonal extensions of livestock grazing.

Timber

16. Lands in Management Area 4A are classified as both "suitable" and "unsuitable" for timber management. The nonforest grasslands and seral brushfields are "unsuitable" for timber management. Schedule timber harvest on the portion of the management area classified as "suitable" for timber management (see Appendix B, Table B-2).

17 On lands "suitable" for scheduled timber harvests, silvicultural prescriptions will be designed to provide for 50% habitat effectiveness and cover standards (both long and short-term).

18 Emphasize even-aged silvicultural systems. Based on site-specific prescription, uneven-aged silvicultural systems may be applied.

19. While basing harvest entries on individual stand conditions and meeting all resource objectives, uneven-aged management may be applied to the following types of lands: (a) dispersed recreation sites or hunter camps; (b) areas with high scenic value; (c) opportunity areas for mule deer habitat enhancement, (d) low site timber lands; (e) climax ponderosa pine and Douglas-fir sites with 50% or more ponderosa pine in the understory; and (f) slopes less than 35%, favoring slopes less than 20%.

20. When applying uneven-aged management, manage for the following target tree numbers and sizes:

    (a) Twenty four inch uneven-aged management ponderosa pine and mixed conifer stands - Maintain at least 2 trees per acre that are 24 inches in diameter and 5 replacement trees that are 18 to 24 inches in diameter.

    (b) Twenty inch uneven-aged management ponderosa pine and mixed conifer stands - Maintain at least 2 trees per acre that are 20 inches in diameter and 5 replacement trees that are 16 to 20 inches in diameter.

    (c) Low site lands (all species) - Maintain at least 1 tree per acre 18 inches in diameter.

    (d) Manage the stand, including understory, to maintain target tree standards throughout time and to meet regional direction for uneven-aged management (see glossary, uneven-aged management).

21. When applying uneven-aged management, the size of created openings are to be a maximum of two acres in size. Exceptions will be based on site-specific prescriptions which are responsive to integrated land management objectives.

Other

22. Restrict activities for logging, firewood gathering, and post sale operations when necessary to protect wintering elk and deer, roads, soil, and water.

Minerals

23. Stipulate in mineral leases the possible limitation of activity between December 1 through April 1 if necessary to provide for wintering needs of big game. Negotiate reasonable limitations in operating plans for locatable mineral development.

Facilities

Roads

24. To limit disturbance to wintering big game, the open road density will be no greater than 2.2 mi/mi^2 by 1999 Where existing conditions do not meet this goal, project transportation system designs will be developed in order to move toward this goal in the shortest time frame possible. Densities will be monitored on a watershed basis (see Appendix I).

25. Restrict off-highway vehicles, over-the-snow vehicles, and other non-industrial traffic use from December 1 to April 1 to protect wildlife habitat and minimize harassment to wintering elk and deer.

26. Close roads to motorized use if necessary to reduce harassment of wintering elk and deer.

Protection

Residue Management

27. Manage residue profiles to maintain or enhance big-game habitat and forage production.

28. Limit treatment activities between Dec. 1 and April 1 to reduce disturbances to wintering elk and deer.

4 Schedule of Management Practices

MANAGEMENT AREA 4A - SCHEDULE OF MANAGEMENT PRACTICES

Management Practice	Activity Code	Total Planned for Decade (1990-1999)
TIMBER		
Timber Harvest		
Clearcut	ET12	47.2 MMBF/3,653 Ac
Shelterwood - Seed Tree Cut	ET12	53.7 MMBF/7,790 Ac
Shelterwood - Removal Cut	ET12	2.5 MMBF/922 Ac
Selection	ET12	31 3 MMBF/6,775 Ac
Overstory Removal on Existing Stands	ET12	35.6 MMBF/2,968 Ac
Commercial Thin	ET12	32.8 MMBF/9,147 Ac
Salvage/Other Products	ET12	9 8 MMBF/Ac N/A
Total Timber Harvest	**ET12**	**212.9 MMBF/31,255 Ac**
Reforestation		
Planting	ET24	4,216 Ac
Natural	ET24	9,937 Ac
Timber Stand Improvement		
Precommercial Thinning	ET25	6,399 Ac
FISH HABITAT IMPROVEMENTS		
Non-Structural	CW222	5,000 Ac
FACILITIES		
Road Construction/Reconstruction	LT22	53 Miles
Timber Purchaser Road		
Construction	LT214-12	82 Miles
Reconstruction	LT214-22	191 Miles